

IN THE DRAWINGS:

Please find attached a replacement sheet of drawings of Figure 2.

REMARKS

Claims 1-30 are in this application and presented for consideration. By this Amendment, Applicant has amended Claims 1 and 3-29. Applicant has canceled Claim 2. Applicant has also added new dependent Claim 30 which is based on newly amended Claim 1.

The drawings have been objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the reference number 25 mentioned in the description. Applicant has provided a replacement sheet of drawings of Figure 2 depicting reference number 25. It is Applicant's position that the drawings are now in compliance with 37 CFR 1.84(p)(5).

The specification has been objected to because it refers to claim 20 as a method claim. Applicant respectfully traverses the objection. Applicant has submitted a preliminary amendment on March 31, 2005 with a substitute specification and a marked up copy of the substitute specification. As seen in the marked up copy of the substitute specification submitted March 31, 2005, the reference to claim 20 has already been deleted. Applicant respectfully requests that the objection to the specification be removed.

The specification has been objected to because the separating unit has been assigned reference numerals 23 and 24 in the same paragraph ([0052]). Applicant has amended the specification so that the separating unit has the proper reference number designation.

Claims 1-20 have been objected to because each element or step of the claim should be separated by a line indentation. Applicant has amended Claims 1-20 to place them in better form.

Claim 20 has been objected to under 37 CFR 1.75(c) as being of improper dependent

form for failing to further limit the subject matter of a previous claim. Applicant has amended Claim 20 to properly place the claim in proper dependent form.

Claims 1-20 have been rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The Office Action states that it is unclear what the means are for shaping piece goods.

Applicant respectfully traverses the rejection. Paragraph [0046] clearly indicates the shaping means as reference numeral 14. The shaping means 14 are provided alongside the accumulating conveyor 8 for receiving piece goods 2. A transfer device 12 receives the piece goods 2 and aligns with the shaping means 14. The flap system 13 of the transfer device 12 is opened so that the piece goods 2 by their own weight drop into the shaping means 14. The piece goods 2 undergo a further shape compression. The internal spacing of the side walls 15 of the shaping means 14 helps to compress the thickness of the piece goods 2 so that the piece goods are kept in a predeterminable, optimized compressed shape. It is Applicant's position that the shaping means is clearly defined and satisfies the requirements of the statute.

Claim 21 has been rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The Office Action states that it is unclear from the drawings and specification as to how the separating unit separates the piece goods from the loading means into the loading space.

Applicant respectfully traverses the rejection. Paragraph [0052] and Figures 7a, 7b clearly describe and depict how the separating unit separates the piece goods from the loading means into the loading space. A layer of shaping means 14 filled with piece goods 2 are

transferred to the loading space 1. To the sides of the loading space opening is a separating unit 23 having rake-like holding means 24. The rake-like holding means 24 are vertically lowered from above and in a frontal manner into the shaping means 14. The rake-like holding means hold the piece goods 2 as the individual shaping means 14 are extracted from the loading space 1. The emptied shaping means 14 then pass via conveyor 6 into the lower working plane 22 of the loading unit 5 where they are fed to the making ready unit 16. Thus, the specification and drawings clearly describe the subject matter in such a way as to enable one skilled the art to make and/or use the invention. Applicant respectfully requests that the 112 rejection of Claim 21 be removed.

Claims 1-29 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant has amended Claims 1-29 to place them in better form. Applicant would like to thank the Examiner for the helpful comments. It is Applicant's position that the claims satisfy the requirements of the statute.

Claims 1, 2, 3, 4, 5, and 12 have been rejected under 35 U.S.C. 102(b) as being anticipated by the Smith reference (US 3,904,024).

The present invention relates to a device and a method for loading a loading space with piece goods. The device comprises a feed means for feeding piece goods. A loading space is provided. The loading space has an opening on at least one side. The device further comprises a shaping means for receiving the piece goods. The shaping means maintains the piece goods in a predeterminable shape or orientation. This advantageously allows the piece goods to be

compressed so that the loading space can be optimized to contain as many piece goods as possible. A transfer means is also provided. The transfer means transfers the piece goods from the feed device into the interior of the loading space. The device also comprises a separating means. The separating means separates the piece goods from the shaping means and deposits the piece goods into the loading space. The present invention provides the advantage of reducing loading time compared to that of the known devices of the prior art. The present invention also advantageously reduces the costs associated with the loading process since no labor force is required for transferring the piece goods into the loading space. The prior art fails to teach or suggest such features or advantages.

Smith discloses an apparatus 20 to transfer object to and from two stacks 22, 24 thereof. Each of the stacks include a plurality of layers 26 of objects. The stacks are on pallets 28 located on a truck or cart 30. The apparatus 20 includes a belt conveyor 32 which has an endless belt 34 mounted on a box-like frame 36. A tail pulley 38 is mounted on a shaft 40 rotatably carried by extensions 42 connected by belt alignment mechanisms 44 to the frame 36. The second end of the belt 34 is carried on a head pulley 46 having a shaft 48 rotatably mounted in extensions 50 connected to the frame 36 by alignment mechanisms 52. A belt take-up 54 is located below the frame 36 along with a reversible drive motor 56 that moves the belt 34 in either direction. The first end of the conveyor 32 is pivotally mounted about a horizontal axis to enable the other opposite or second end of the conveyor to move in a generally vertical, arcuate path. The first end of the conveyor 32 is also pivotally mounted about a vertical axis to enable the opposite or second end of the conveyor to move in a generally horizontal, arcuate

path for movement between the stacks 22, 24. A short, fixed conveyor 136 is located adjacent the first end of the conveyor 32 to receive objects from the belt 34 or supply them onto the belt 34.

Smith fails to teach or suggest the combination of a shaping means for receiving the piece goods, whereby the shaping means maintains the piece goods in a predeterminable shape or orientation. The Office Action states that Smith provides at least one shaping means 32 through which the piece goods can be brought into a predeterminable shape or orientation. Applicant respectfully disagrees with this reading of the prior art reference. A fair reading of Smith clearly shows that the reference number 32 refers to a belt conveyor and not a shaping means that maintains the piece goods in a predeterminable shape. The belt conveyor 32 of the Smith reference fails to maintain the shape of the piece goods. At most, the Smith reference teaches that the conveyor belt functions to receive piece goods and move them to another location. The shaping means is a significant feature of the present invention since the shaping means advantageously compresses the thickness of the piece goods so that the piece goods are kept in a predeterminable, optimized compressed shape. This provides the advantage of optimizing the loading space so that as many piece goods as possible can be placed within the loading space. In contrast, Smith merely passes the objects along the conveyor belt without subjecting them to any sort of shaping means. As such, Smith teaches a different approach and fails to suggest the features or advantages for the present invention.

Smith also fails to teach or suggest a separating means for separating the piece goods from the shaping means and depositing the piece goods into the loading space. The Office

Action states that the Smith reference discloses a separating unit 46 that separates the piece good from the loading means. Applicant respectfully disagrees with such a reading of Smith. The prior art must be given a fair reading as to the features disclosed. Smith discloses that reference numeral 46 refers to a head pulley. Applicant fails to see how a head pulley is the functional equivalent of a separating means that separates the piece goods from the shaping means. In fact, Smith discloses that the second end of the belt 34 is carried on the head pulley 46 having a shaft 48 rotatably mounted in extensions 50 connected to the frame 36 by alignment mechanisms 52. The Smith reference fails to disclose that the head pulley separates piece goods from the shaping means. The separating means is a significant feature of the present invention since it allows the compressed piece goods to be deposited within the loading space. This advantageously provides for maximizing the highest amount of goods possible to be placed within the loading space. Smith fails to disclose such features or advantages. Accordingly, Applicant respectfully requests that the Examiner favorably consider Claim 1 as now presented. Applicant also respectfully requests that the Examiner favorably consider Claims 3-5 and 12 as they are based on newly amended Claim 1.

Claims 1, 2, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18 and 20 have been rejected under 35 U.S.C. 102(b) as being anticipated by Proulx (US 4,892,458).

Proulx discloses a board stacking machine 10. The machine comprises a feed control station 11 for feeding a constant supply of boards 12 to a board orienting station 13. The boards are fed to feed station 11 of the machine 10 by a feed conveyor 14 where the boards are discharged in an accumulator 15 which is disposed at the discharge end 14' of the feed

conveyor. The accumulator 15 accumulates the boards 12 into a bundle 12' so that when they are released onto a control feed conveyor 16 they are maintained in a side-by-side arrangement. The stack of boards 12" is fed to a discharge conveyor 22 which feeds boards from the end section 23 of the control feed conveyor 16 to a feed supply station 24 of a single board feed conveyor 25. The station 24 comprises a support wall 26 oriented below the discharge conveyor 22 which is disposed in a vertical inclined plane. A deflector 27 is disposed between the discharge conveyor 22 and the single board feed conveyor 25 to direct boards projected thereon downwardly into the feed supply position. A plurality of guide fingers 28 are secured from the top end of the conveyor 25 to ensure that the boards all lie flat when directed to the input end of a delivery conveyor 30. Two or more spaced apart adjustable pins 60' are disposed at the input end of the delivery conveyor 30 to reject or prevent the conveyance of boards. The delivery conveyor 30 forms part of the board orientation station 13. At the outlet end 33 the boards are in horizontal alignment and fed onto a discharge station 34 where there is provided one or more driven endless belt members 35, 35'. The discharge endless belts conveyors 35, 35' discharge the boards 12 onto a board holding means 36 positionable in alignment with the boards disposed in side-by-side relationship at the discharge station 34. A board holding means 36 comprises a pair of end support members 41, which are positioned in alignment with the boards located under the discharge conveyors. The boards are arrested by a stopper piston shoe 91 secured to piston 90.

Proulx fails to teach or suggest a separating means for separating the piece goods from the shaping means and depositing the piece goods into the loading space. The Office Action

states that Proulx discloses a separating unit 60', 90, 91 which separates the piece goods from the loading means. Applicant respectfully disagrees with the Examiner's reading of Proulx. The prior art must be given a fair reading. Proulx discloses that adjusting pins 60' are disposed at the input end of the delivery conveyor 30 to reject or prevent the conveyance of boards. The stopper piston shoe 91 is secured to piston 90 and functions to halt the boards. (Column 4, lines 18-39). The Proulx reference fails to disclose that the adjusting pins 60' or stopper piston shoe 91 secured to piston 90 separates the piece goods from a shaping means. In fact, Proulx fails to teach or suggest a shaping means for receiving piece goods, whereby the shaping means maintains the piece goods in a predeterminable shape or orientation. The Office Action states that the Smith reference discloses a shaping means 10. However, a fair reading of the Smith disclosure indicates that reference numeral 10 represents a board stacking machine. Applicant fails to see how a board stacking machine is the equivalent of a shaping means. The disclosure fails to teach that the board stacking machine comprises either a separating means or a shaping means. In contrast to the present invention, Smith teaches that the boards cannot be reoriented and rigid pieces of wood to form stacks one dimension. In the present invention, stacks of different dimensions can advantageously be created. As such, Smith teaches a different approach and fails to suggest the features of the present invention. Accordingly, Applicant respectfully requests that the Examiner favorably consider Claim 1 as now presented. Applicant also respectfully requests that the Examiner favorably consider Claims 4-9, 11-18 and 20 as they are based on newly amended Claim 1.

Claims 21, 22, 23 and 25 have been rejected under 35 U.S.C. 102(b) as being

anticipated by the Tommasi reference (US 5,459,979).

The present invention relates to a device and a method for loading a loading space with piece goods. The method comprises the steps of feeding in the piece goods in an area located outside a loading space. The piece goods are shaped individually or groupwise by an external force acting on the piece goods. This advantageously allows the piece goods to be compressed so that as many piece goods can fit inside the loading space as possible. The piece goods are then transferred to the transfer unit and the piece goods are horizontally introduced into the loading space. A shaping means is provided for maintaining the shape of the piece goods during transport. The shaping means advantageously compresses the thickness of the piece goods so that the piece goods are kept in a predeterminable, optimized compressed shape. This provides the advantage of reducing the space that the piece goods take up within the loading space so that as many piece goods as possible can fit inside the loading space. The piece goods are then separated from the shaping means using a separating unit and the piece goods are deposited within the loading space. This advantageously allows for the shaping means to be reused again. The present method provides the advantage of reducing loading time compared to that of the known devices of the prior art. The present method advantageously reduces the costs associated with the loading process since no labor force is required for transferring the piece goods into the loading space. The prior art fails to teach or suggest such features or advantages.

Tommasi discloses a method for continuously feeding packs of folded paper napkins to a wrapping machine. Packs 1 to be wrapped are fed by a corresponding belt conveyor 10 and

the packs 1 are transferred towards the revolver 2 of the machine by compressive and feeding member 4 and a pair of superimposed rollers 40. The packs 1 are fully compressed and has sufficient momentum upon output from the compress/feed means 4 for allowing the insertion of the compressed pack 1 into a corresponding pocket 20 of the revolver 2. At the same time, the momentum is also sufficient for the wrapping of the pack 1 within a polyethylene flap 3. The polyethylene flap 3 is kept adherent to the surface of the revolver 2 so that the polyethylene is interposed between the output path of the compress/feed means 4 and the pockets 20 into which the packs are actually inserted.

The Tommasi reference fails to teach or suggest providing a shaping means for receiving piece goods, whereby the shaping means maintains the shape of the piece goods during transport . At most, the Tommasi reference teaches that the packs 1 are compressed by the compress/feed means 4 to increase the momentum of the pack so that the pack 1 can fit inside the pocket 20 of the revolver 2. In contrast to Tommasi, the receiving goods in the present invention are placed within the shaping means and transported to the loading space. The shaping means keeps the piece goods in a predeterminable, optimized compressed shape. The piece goods are then separated from the shaping means. Tommasi fails to teach or suggest that a shaping means that maintains the shape of the piece goods during transport. Tommasi teaches a different method in which the packs 1 are pushed towards a compress/feed means 4 and compressed before entering a pocket 20 of the revolver 2. In contrast to the present invention, the packs 1 of the Tommasi reference are not placed into shaping means and then transported. As such, Tommasi teaches a different approach and fails to suggest the present invention.

Accordingly, Applicant respectfully requests that the Examiner favorably consider Claim 21 as now presented. Applicant further requests that the Examiner favorably consider Claims 22, 23 and 25 as they are based on newly amended Claim 21.

Claim 19 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Proulx in view of Mastak (US 5,074,744). Although Mastak teaches an article handling apparatus, the references as a whole fail to suggest the combination of features claimed. The references do not suggest the invention and therefore all claims define over the prior art as a whole.

Claims 26 and 27 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Tommasi in view of Kennison (US 4,264,253). Although Kennison teaches a method and apparatus for forming a lumber stack and placing sticks between adjacent courses in the stack, the references as a whole fail to suggest the combination of features claimed. The references do not suggest the invention and therefore all claims define over the prior art as a whole.

The prior art as a whole fails to direct the person of ordinary skill in the art toward the features of the invention. Further, the invention includes cooperating features which provide particular advantages which are neither taught nor suggested by the prior art. Accordingly, Applicant requests that the Examiner favorably consider the amended claims in light of the discussion above.

Further and favorable consideration on the merits is requested.

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Attachment: (1) Sheet of Replacement Drawings

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